

CLAIMS

What is claimed is:

- 1 1. A method comprising:
2 establishing an audio-based dialog between a person and a machine,
3 wherein the person uses a communication device to communicate with the
4 machine;
5 automatically detecting a characteristic during the dialog in real time,
6 wherein the characteristic is not uniquely indicative of any of: the identity of the
7 person, the identity of the communication device, or any user account; and
8 customizing the dialog at an application level, based on the detected
9 characteristic.
- 1 2. A method as recited in claim 1, wherein the characteristic is a characteristic of
2 the person.
- 1 3. A method as recited in claim 2, wherein the characteristic is an approximate
2 age of the person.
- 1 4. A method as recited in claim 2, wherein the characteristic is the gender of the
2 person.
- 1 5. A method as recited in claim 1, wherein the characteristic is a type of speech
2 being spoken by the person.

1 6. A method as recited in claim 1, wherein the characteristic is an emotional state
2 of the person.

1 7. A method as recited in claim 1, wherein the characteristic is indicative of the
2 truthfulness of speech of the person.

1 8. A method as recited in claim 1, wherein the characteristic is an acoustic
2 characteristic.

1 9. A method as recited in claim 1, wherein the characteristic is indicative of a
2 speech level of the dialog.

1 10. A method as recited in claim 1, wherein the characteristic is indicative of a
2 noise level.

1 11. A method as recited in claim 10, wherein the characteristic is indicative of an
2 acoustic noise level of the dialog.

1 12. A method as recited in claim 10, wherein the characteristic is indicative of a
2 signal noise level of the dialog.

1 13. A method as recited in claim 1, wherein the characteristic is descriptive of an
2 environment in which the person is located.

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- 1 14. A method as recited in claim 13, wherein the characteristic is an acoustic
- 2 characteristic.

- 1 15. A method as recited in claim 14, wherein the characteristic is a noise level of
- 2 an acoustic environment in which the person is located.

- 1 16. A method as recited in claim 13, wherein the characteristic is a noise type of
- 2 the acoustic environment.

- 1 17. A method as recited in claim 13, wherein the characteristic is the level of
- 2 reverberance of the acoustic environment.

- 1 18. A method as recited in claim 1, wherein the characteristic is descriptive of a
- 2 reason the person is experiencing an error.

- 1 19. A method as recited in claim 1, wherein the characteristic is a type of
- 2 communication device the person is using to communicate with the machine.

- 1 20. A method as recited in claim 1, wherein the method is implemented in a call
- 2 routing system, and wherein said customizing the dialog at an application level
- 3 comprises selecting a destination to which a call from the person should be
- 4 routed, based on the detected characteristic.

1 21. A method as recited in claim 1, wherein said customizing the dialog at an
2 application level comprises customizing an error recovery dialog based on the
3 detected characteristic.

1 22. A method as recited in claim 1, wherein said customizing the dialog at an
2 application level comprises communicating content customized for the person
3 based on the detected characteristic.

1 23. A method as recited in claim 22, wherein the content comprises an
2 advertisement customized for the person.

1 24. A method as recited in claim 1, wherein said customizing the dialog at an
2 application level comprises customizing a call flow of the dialog for the person.

1 25. A method as recited in claim 1, wherein said customizing the dialog at an
2 application level comprises customizing a prompt delivery of the dialog for the
3 person.

1 26. A method as recited in claim 1, wherein said customizing the dialog at an
2 application level comprises customizing a prompt style of the dialog for the
3 person.

1 27. A method as recited in claim 1, wherein said customizing the dialog at an
2 application level comprises customizing a set of grammars for the dialog for the
3 person.

28. A method as recited in claim 1, wherein said customizing the dialog at an application level comprises customizing a persona of the machine for the person.

29. A system comprising:

a front end to generate a set of features in response to speech from a

person during a dialog with the person, wherein the person uses a

communication device to carry out the dialog;

a set of models;

a speech recognition engine to recognize the speech from the person based on the features and the models;

a characteristic detector to detect a characteristic other than the identity of the person, the identity of the specific communication device, or any user account; and

a customization unit to customize the dialog at an application level based on the detected characteristic.

30. An apparatus comprising:

means for establishing an audio-based dialog between a person and a machine wherein the person uses a communication device to communicate with the machine;

means for automatically detecting a characteristic during the dialog in real time, wherein the characteristic is not uniquely indicative of any of: the identity

1 43. A method as recited in claim 41, wherein the characteristic is indicative of a
2 signal noise level.

1 44. A method as recited in claim 31, wherein the characteristic is descriptive of
2 an environment in which the person is located.

1 45. A method as recited in claim 44, wherein the characteristic is an acoustic
2 characteristic.

1 46. A method as recited in claim 45, wherein the characteristic is a noise level of
2 an acoustic environment in which the person is located.

1 47. A method as recited in claim 44, wherein the characteristic is a noise type of
2 the acoustic environment.

1 48. A method as recited in claim 44, wherein the characteristic is the level of
2 reverberance of the acoustic environment.

1 49. A method as recited in claim 31, wherein the characteristic is descriptive of a
2 reason the caller is experiencing an error.

1 50. A method as recited in claim 31, wherein the characteristic is a type of
2 communication device the person is using to communicate with the machine.

1 51. A method as recited in claim 31, wherein the method is implemented in a call
2 routing system, and wherein said customizing the dialog at an application level
3 comprises routing a call from the person based on the detected characteristic.

1 52. A method as recited in claim 31, wherein said customizing the dialog at an
2 application level comprises customizing an error recovery dialog based on the
3 detected characteristic.

1 53. A method as recited in claim 31, wherein said customizing the dialog at an
2 application level comprises communicating content customized for the person
3 based on the detected characteristic.

1 54. A method as recited in claim 52, wherein the content comprises an
2 advertisement customized for the person.

1 55. A method as recited in claim 31, wherein said customizing the dialog at an
2 application level comprises customizing a call flow of the dialog for the person.

1 56. A method as recited in claim 31, wherein said customizing the dialog at an
2 application level comprises customizing a prompt delivery of the dialog for the
3 person.

1 57. A method as recited in claim 31, wherein said customizing the dialog at an
2 application level comprises customizing a prompt style of the dialog for the
3 person.

59. A method as recited in claim 31, wherein said customizing the dialog at an application level comprises customizing a persona of the machine for the person.

1 60. An apparatus comprising:

means for providing a plurality of audio-based dialogs, each between a person and a machine, wherein each person uses a communication device to communicate with the machine during the corresponding dialog;

5 means for examining each of the dialogs to automatically detect a
6 characteristic for at least some of the dialogs, wherein the characteristic is not
7 uniquely indicative of any of: the identity of the person, the identity of the
8 specific communication device, or any user account; and

9 means for generating an overall characterization of the dialogs with
10 respect to the characteristic.